

**DESCRIPTION OF *HOUARTIELLA* N. GEN., TROPHONINAE
COSSMANN, 1903, AND *H. ALBORANENSIS* N. SP. FROM THE
MEDITERRANEAN SEA**

CARLO SMRIGLIO, PAOLO MARIOTTINI, ANTONIO BONFITTO

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Key words: *Houartiella* n. gen., *Houartiella alboranensis* n. sp., Muricidae, Trophoninae, Mediterranean Sea.

Abstract: A new genus of Muricidae Rafinesque, 1815, referring to the subfamily Trophoninae Cossmann, 1903, is here described: *Houartiella* n. gen. together with the description of *Houartiella alboranensis* n. sp. from the Alboran Sea, Western Mediterranean Sea. Comparative analysis with other Mediterranean and African-Atlantic Trophoninae species and with *Ocenebra aciculata* (Lamarck, 1822), which has a very similar shell surface sculpture, has shown that the proposed taxa are new to science. The new genus seems to be related to *Conchatalos* Houart, 1995, a recently described genus from New Caledonia, in particular with *Conchatalos canalibrevis* Houart, 1995.

Riassunto: Viene proposto un nuovo genere di Muricidae Rafinesque, 1815 ascrivibile alla sottofamiglia Trophoninae Cossmann, 1903: *Houartiella* n. gen.; assieme alla descrizione di *Houartiella alboranensis* n. sp., reperita in vari esemplari nel Mare d'Alboran, Mar Mediterraneo Occidentale. L'analisi comparativa con le altre Trophoninae, sia mediterranee che atlantico-africane, e con *Ocenebra aciculata* (Lamarck, 1822), specie che mostra una scultura simile, ha mostrato l'originalità dei taxa. Il nuovo genere sembra essere correlato a *Conchatalos* Houart, 1995, genere recentemente descritto per la Nuova Caledonia, in particolar modo con *Conchatalos canalibrevis* Houart, 1995.

CARLO SMRIGLIO, Via di Valle Aurelia, 134 - I-00167 Roma (ROMA) Italia

PAOLO MARIOTTINI, Dipartimento di Biologia, Università degli Studi di Roma Tre, Via Ostiense, 173 - I-00154 Roma (ROMA) Italia

ANTONIO BONFITTO, Museo di Zoologia dell'Università di Bologna, Via Selmi, 3 - I-40126 Bologna (BO) Italia

Introduction

During the screening of material from the Alboran Sea, Western Mediterranean Sea, we had the opportunity to find several specimens, lacking soft parts, and many fragments of a small muricid, which it was not possible to classify among the mediterranean species of the family Muricidae Rafinesque, 1815 (SABELLI et al., 1990-1992a-b). At first glance, the shell features strongly suggest to put this muricid in *Ocenebra*, subgenus *Ocinebrina* Jousseaume, 1880, but a more detailed examination of the protoconch and teleoconch morphology and a wider comparison to other members of the family, have led us to describe the species as a new taxon very probably belonging to the subfamily Trophoninae Cossmann, 1903. But within this subfamily, we could not find any appropriate mediterranean and african-atlantic genus to fit in the new species, on the contrary we think there is a good correlation with *Conchatalos* Houart, 1995, a genus based on some Trophoninae deep-water species from the New Caledonia (HOUART, 1995). We propose *Houartiella* n. gen. and *Houartiella alboranensis* n. sp. as new to science.

Material

Seventeen specimens, two containing traces of soft parts, and several fragments of *H. alboranensis* n. sp. have been isolated during the sorting of dredged material collected at a depth range of 80/150 m, from the bottoms surrounding the Alboran Isle, Western Mediterranean Sea. The analysis of about six Kg of a marine sediment has revealed the presence of fragments of *Corallium rubrum* (Linné), indicating the coralligenous nature of this settlements.

Systematics

Family	Muricidae	Rafinesque, 1815
Subfamily	Trophoninae	Cossmann, 1903

Houartiella n. gen.

Type species: *Houartiella alboranensis* n. sp.

Description of the genus

Shell up to 6.8 mm in length, four teleoconch whorls globose, with 7-10 axial ribs. Aperture large roundly-ovate, outer lip crenulated, siphonal canal short and straight. Sculpture with axial varice-like ribs crossed by obvious spiral cords.

Houartiella alboranensis n. sp.

Type material

Holotype 6.1 mm long (H) and 3.4 mm wide (D), the ratio H/D is 1.8;
paratype A 1.8 mm (H), 1.3 mm (D), the ratio H/D is 1.4;
paratype B 6.8 mm (H), 4.0 mm (D), the ratio H/D is 1.7;
paratype C 5.8 mm (H), 3.3 mm (D), the ratio H/D is 1.7;
paratype D 4.7 mm (H), 2.8 mm (D), the ratio H/D is 1.7;
paratype E 6.2 mm (H), 3.7 mm (D), the ratio H/D is 1.7.

The holotype and the paratypes C and E are stored in the Laboratorio di Malacologia, Università di Bologna (MZB, Italy), N° MZB11670, N° MZB11671 and N° MZB11672, respectively. The paratypes A, B and D are kept in the author's collections.

Description

Shell small and solid with a short and straight siphonal canal (Figs 1a-6) and five and a half whorls showing a prominent suture. Protoconch of one and a half whorl showing a weak microsculpture consisting in several slender and discontinued spiral, weak narrow cords (Figs 7a-d). A sort of irregular foramen is present all over the protoconch surface, visible only by means of a strong magnification (Fig. 7e). Teleoconch of four strongly convex whorls, shell sculpture consisting in marked axial varice-like ribs, weakly spiny in the upper part, crossed by a large number of well defined spiral cords. Where the axial and spiral ribs cross each other, the overlapping sculpture results in rounded, slightly pointed, tubercles. In particular, the initial teleoconch whorls show more prominent and flanged axial riblets than the last whorl, this is more evident in the juvenile specimens (Fig. 2). Last whorl about 2/3 of shell height. Aperture roundly-ovate, about half of the entire shell height, columellar lip smooth, outer lip crenulated,

with 5-6 lirae extending within the aperture. Shell translucent yellow-brownish, some specimens are very light ochre. Operculum and soft parts unknown.

Derivatio nominis

The generic name is after Mr. Roland Houart (Landen, Belgium), who contributes much to the knowledge of muricids; the specific name refers to the type locality.

Locus typicus

Off Alboran Isle, 80-150 m, Western Mediterranean Sea.

Habitat

The coralligenous bottoms of the deep circalittoral stage.

Discussion

Houartiella alboranensis n. sp. shows some shell feature similarities with the juvenile stage of *Ocenebra* (*Ocinebrina*) *aciculata* (Lamarck, 1822) (R. Houart *in litt.*), which is characterized by a short and open siphonal canal. Nevertheless, besides a strong discrepancy in the total shell size, a more detailed analysis of the protoconch features reveals that there is a great difference between the two species. In particular, the protoconch of *O. aciculata* has a bigger size and its microsculpture presents rounded tubercles aligned according to the spiral whorls (BANDEL, 1975; SABELLI, pers. comm.). Furthermore, the first teleoconch whorls shows axial ribs crossed by two spiral riblets starting from the joining point of protoconch and teleoconch. In *H. alboranensis* the first teleoconch whorl presents only axial lamellae-like ribs, slightly winged in the upper part giving a coronated-like shape to the shell. Finally, the protoconch is separated from the teleoconch only by a set of axial growing lines (Fig. 7a).

We have also compared *H. alboranensis* with the mediterranean species of the genus *Coralliophila* Adams H. & A., 1853 *sensu lato*, but we observed a clearly difference in teleoconch and protoconch sculpture features. In particular, the planktotrophic protoconch of *Coralliophila* species show a two stages larval development, with the protoconch II (PII) heavily sculptured (TAVIANI & TAVIANI, 1986).

On the base of the shell morphology (figs. 1-6), resulting in: i) a globose protoconch with few whorls and a sculpture with light spiral microstriae and a conspicuous number of pores irregularly distributed (figs 7a-e); ii) lack of spiral riblets on the first teleoconch whorl; iii) axial lamellae-like ribs ; iv) open siphonal canal, we decided to classify the new taxon within the subfamily Trophoninae Cossmann, 1903, considering this group on a classical fashion and not as a polyphyletic one (KOOL, 1993). The revision of the European Trophoninae published by HOUART (1981) and the further contribution of BOUCHET & WARÉN (1985), give a comprehensive taxonomical picture of the group status in the European area. Notwithstanding, the shell shape, the short siphonal canal, the outer crenulated lip clearly separate this new muricid from the other mediterranean ones, namely *Pagodula echinatus* (Kiener, 1840) (fig. 10) and *Trophonopsis muricatus* (Montagu, 1803) (fig. 11). The comparison of *H. alboranensis* with "*Trophon*" *gruveli* Dautzenberg, 1912, (figs. 8-9), a species known only from Western Africa (NICKLES, 1950) and *Boreotrophon fraseri* (Knudsen, 1956), (figs. 12-13), another species from Western Africa but recorded also from Mediterranean Sea (Baleari Islands, Spain) by HOUART & AZNAR (1982), has revealed no significant similarities. It is noteworthy to mention the similarity of *H. alboranensis* with *Conchatalos canalibrevis* (Houart, 1995), a species belonging to a genus recently described by HOUART (1995) from New Caledonia. This genus

includes biconical shells, up to 13 mm in length, with last teleoconch globose whorl, 5-9 axial ribs, large roundly-ovate aperture, short and open siphonal canal. Some similarities between the two muricids can be observed; in particular, the size, the general shape and the number of whorls in both the protoconch and teleoconch. The sculpture of the teleoconch consists in axial rounded varices crossed by very weak cords. Nevertheless, the two species can be easily separated, in *H. alboranensis* the number of axial ribs is higher, the sculpture is more marked, the aperture is smaller and the inner lip is crenulated. The individuals collected of this new muricid could represent an endemic species of the Alboran Sea, a Mediterranean Sea area still poorly studied. The authors are well aware that dealing with a representative species of Muricidae, a family very rich in polymorphic species, it could be important to analyse the operculum and radula for a correct classification. On the other hand, the peculiar shell morphology shown in *Houartiella*, close only to the genus *Conchatalos* Houart, 1995 and in particular to *Conchatalus canalibrevis* Houart, 1995, has prompted us to describe it as a new taxon.

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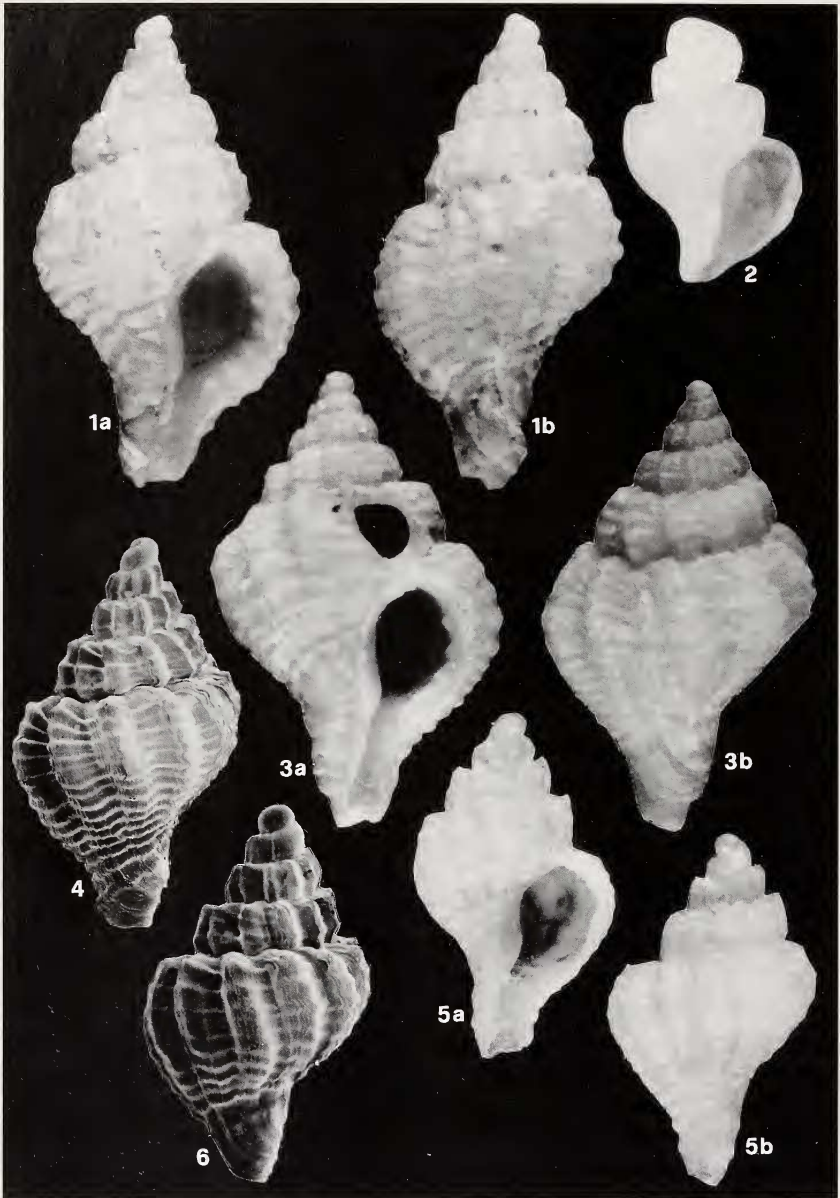
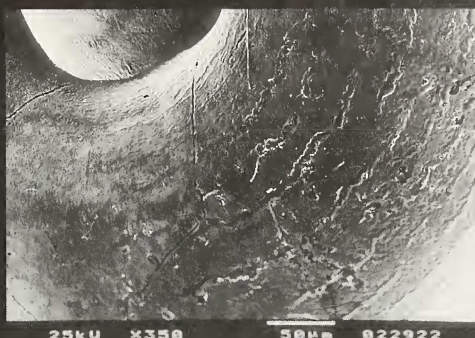


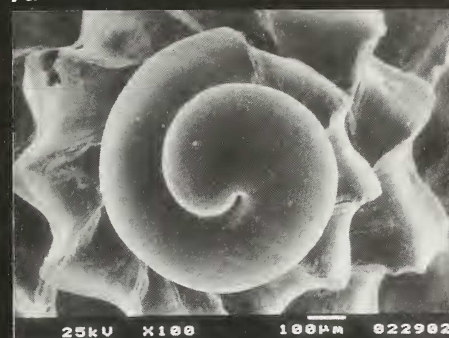
Table I. Figure 1a. *Houartiella alboranensis* n. sp. Apertural view of the holotype, colln. MZB, N° 11670 (Bologna, Italy). 6.1 mm (H), 3.4 mm (D). Figure 1b. *H. alboranensis* n. sp. Dorsal view of the holotype. Figure 2. *H. alboranensis* n. sp. Apertural view of the paratype A. Juvenile specimen. 1.8 mm (H), 1.3 mm (D). Colln. Smriglio-Mariottini. Figure 3a. *H. alboranensis* n. sp. Apertural view of the paratype B. 6.8 mm (H), 4.0 mm (D). Colln. Smriglio-Mariottini. Figure 3b. *H. alboranensis* n. sp. Dorsal view of the paratype B. Figure 4. *H. alboranensis* n. sp. Dorsal view of the paratype C. 5.8 mm (H), 3.3 mm (D). SEM photograph. Colln. MZB, N° 11671 (Bologna, Italy). Figure 5a. *H. alboranensis* n. sp. Apertural view of the paratype D. 4.7 mm (H), 2.8 mm (D). Colln. Smriglio-Mariottini. Figure 5b. *H. alboranensis* n. sp. Dorsal view of the paratype D.



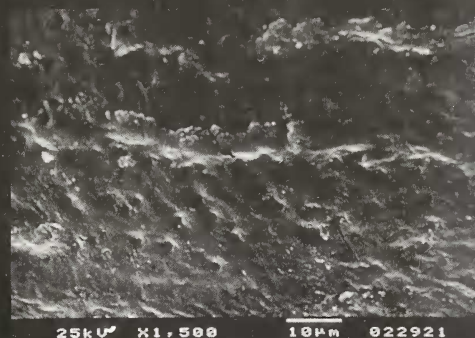
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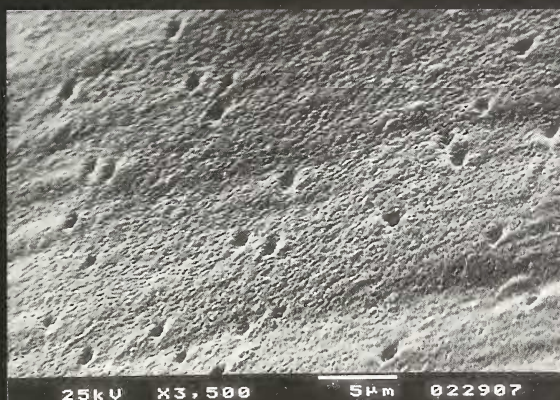
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7e

Table II. Figure 6. *H. alboranensis* n. sp. Dorsal view of the paratype E. 6.2 mm (H), 3.7 mm (D). SEM photograph. Colln. MZB, N° 11672 (Bologna, Italy). Figure 7a. *H. alboranensis* n. sp. Lateral view of the protoconch. Figure 7b. *H. alboranensis* n. sp. Apical view of the protoconch. Figure 7c. *H. alboranensis* n. sp. Microsculpture of the protoconch. Figure 7d. *H. alboranensis* n. sp. Feature of the protoconch microsculpture: spiral riblets. Figure 7e. *H. alboranensis* n. sp. Feature of the protoconch microsculpture: foramen.

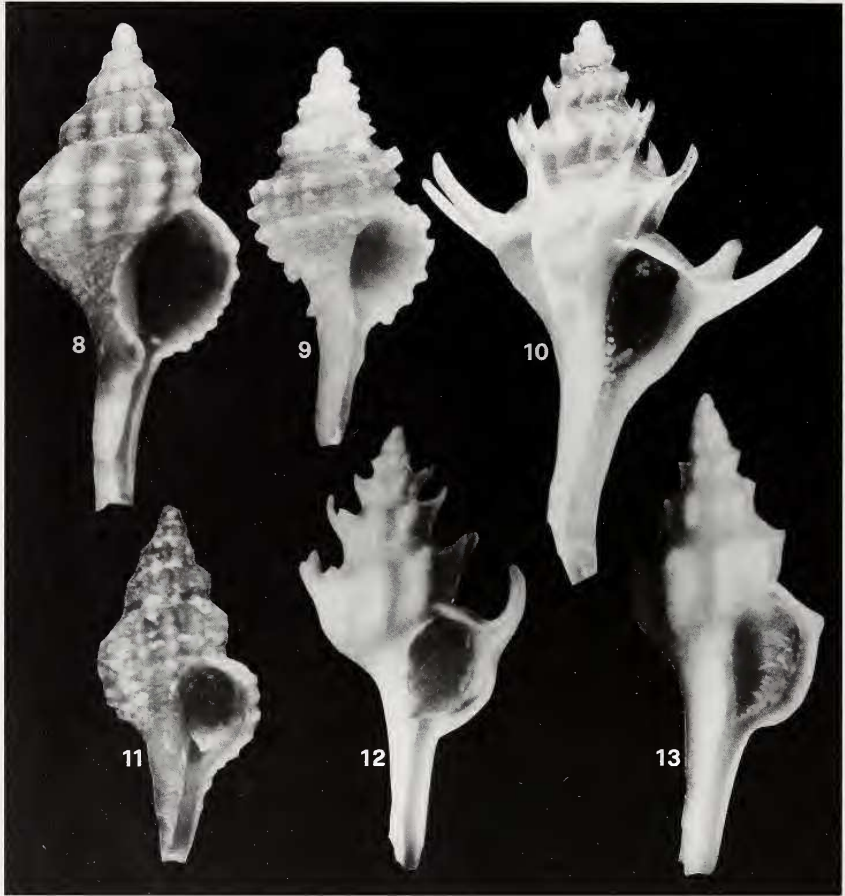


Table III. Figure 8. "*Trophon*" *gruveli* Dautzenberg, 1912. Apertural view. 10.8 mm (H), 5.2 mm (D). West Sahara, -50/60 m. Colln. Smriglio-Mariottini. Figure 9. "*T*". *gruveli*. Subadult. Apertural view. 9.0 mm (H), 4.0 mm (D). Specimen showing enhanced spiny and lamellated tubercles. West Sahara, -50/60 m. Colln. Smriglio-Mariottini. Figure 10. *Pagodula echinatus* (Kiener, 1840). Apertural view. 14.1 mm (H), 10.0 mm (D). Central Tyrrhenian Sea (latial coast), Italy, -450 m. Colln. Smriglio-Mariottini. Figure 11. *Trophonopsis muricatus* (Montagu, 1803). Apertural view. 7.6 mm (H), 3.6 mm (D). Sicily (Golfo di Carini), Italy, -120 m. Colln. Smriglio-Mariottini. Figure 12. *Boreotrophon fraseri* Knudsen, 1956. Apertural view. 43.0 mm (H), 19.0 mm (D). Senegal, -300/400 m. Colln. Smriglio-Mariottini. Figure 13. *B. fraseri*. Apertural view. 39.0 mm (H), 19.0 mm (D). Senegal, -300/400 m. Colln. Smriglio-Mariottini.